

Name: _____

Chapter 6 Review

Semester 2 Final Exam

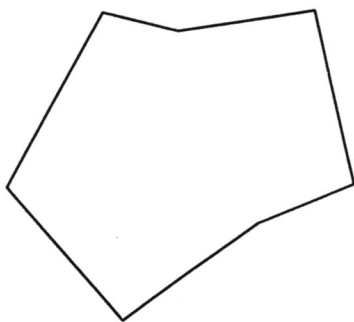


Complete the statement.

A polygon is a plane figure that is formed by three or more segments called sides. Each side intersects exactly ? other sides at each of its endpoints. Each endpoint is a ? of the polygon.

- [A] two, vertex [B] three, vertex
[C] two, side [D] three, side

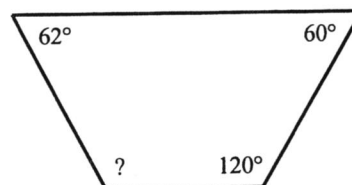
2. Decide whether the figure is a polygon.
If so, tell what type. If not, explain why.



3. Name a polygon with 8 sides.

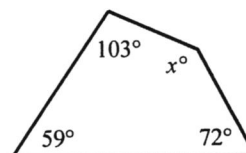
- [A] decagon [B] quadrilateral
[C] octagon [D] triangle

4. Find the measure of the missing angle.



- [A] 118° [B] 62°
[C] 120° [D] 60°

5. Use the information in the diagram to solve for x . The diagram is not to scale.

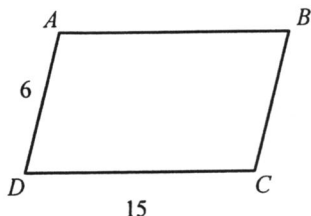


- [A] 36 [B] 81
[C] 126 [D] 216

6. If a quadrilateral is a parallelogram, then its consecutive angles are ? .

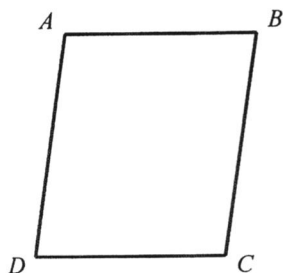
- [A] congruent [B] supplementary
[C] complementary [D] equal

7. In parallelogram $ABCD$, find BC .

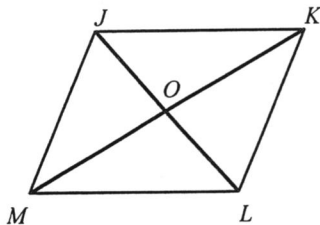


- [A] 21 [B] 9 [C] 15 [D] 6

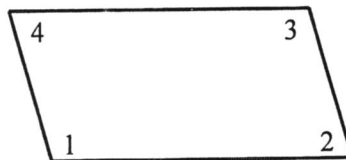
8. $ABCD$ is a parallelogram. If $m\angle DAB = 98^\circ$, then $m\angle ABC = \underline{\hspace{1cm}}$.



9. In the parallelogram, $m\angle KLO = 81^\circ$ and $m\angle MLO = 41^\circ$. Find $m\angle KJM$.

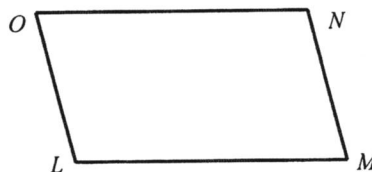


10. For the parallelogram below, if $m\angle 1 = m\angle 3 = (2.6x)^\circ$, $m\angle 2 = (3x - 100)^\circ$, and $m\angle 4 = x^\circ$, find the value of x . The diagram is not to scale.



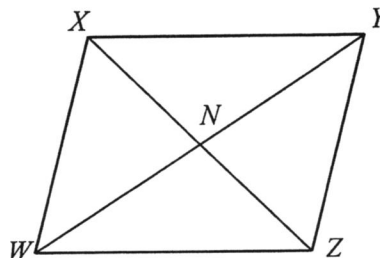
- [A] 100 [B] 50 [C] 40 [D] 80

11. If $NM = x + 2$ and $OL = 23$, find the value of x given that $LMNO$ is a parallelogram. The diagram is not to scale.



- [A] $x = 21$ [B] $x = 25$
[C] $x = 42$ [D] $x = 10.5$

12. Match the segment in parallelogram $WXYZ$ with a congruent one.
 \overline{WX}

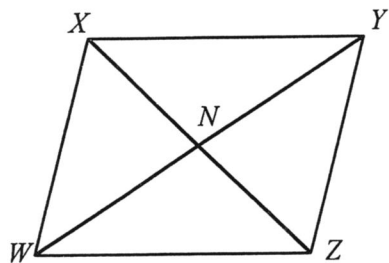


- [A] \overline{WN} [B] \overline{WZ}
[C] \overline{YZ} [D] \overline{NZ}

13. Complete the statement.
If both pairs of opposite sides of a quadrilateral are ?, then the quadrilateral is a parallelogram.

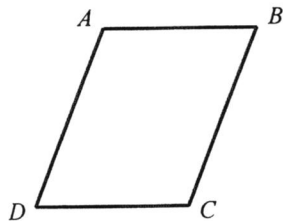
[A] adjacent [B] perpendicular
[C] congruent [D] none of these

14. Which statement can be used to show that quadrilateral $XYZW$ is a parallelogram?



- [A] $\overline{XW} \cong \overline{WZ}$ and $\overline{XY} \cong \overline{YZ}$
[B] $\overline{XN} \cong \overline{YN}$ and $\overline{WN} \cong \overline{ZN}$
[C] N is the midpoint of \overline{XZ} and \overline{WY} .
[D] $XW = WZ$ and $XY = YZ$

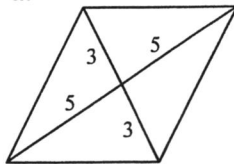
15. If $m\angle A = m\angle C = 108^\circ$, find $m\angle B$ so that quadrilateral $ABCD$ is a parallelogram.



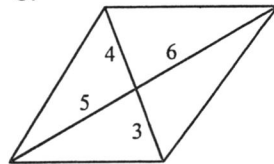
- [A] 18° [B] 72°
[C] 162° [D] 108°

16. Tell whether the quadrilateral is a parallelogram.

a.



b.



17. What is the perimeter of a rhombus $ABCD$ given $AB = 15$?

Find the measure.

18.

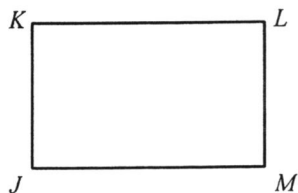
rectangle $JKLM$

[A] 90°

[B] 45°

[C] 180°

[D] 360°



$m\angle L = \underline{\hspace{1cm}}?$

19.

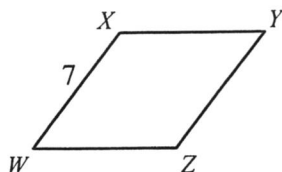
rhombus $WXYZ$

[A] 14

[B] 3.5

[C] 28

[D] 7



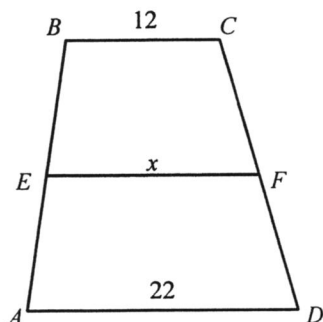
$YZ = \underline{\hspace{1cm}}?$

Complete the statement.

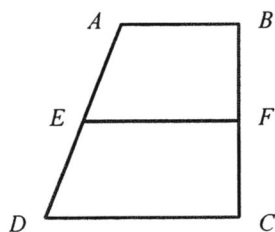
20. The midsegment of a trapezoid is the segment that connects the $\underline{\hspace{1cm}}?$ of its legs.

21. If a trapezoid is isosceles, then each pair of base angles is $\underline{\hspace{1cm}}?$.

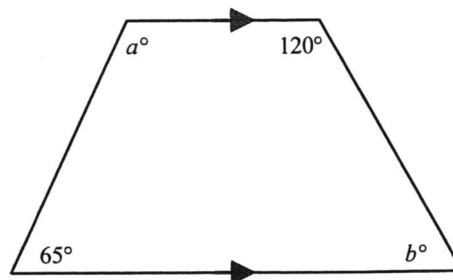
22. In the figure shown, \overline{EF} is the midsegment of trapezoid $ABCD$. Find the value of x .



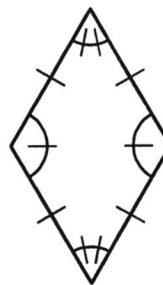
23. Given: Trapezoid $ABCD$ with midsegment \overline{EF} . If $AB = 6$ and $EF = 8$, find the length of \overline{DC} .



24. Find the values of a and b .



- [A] $a = 65, b = 30$
 [B] $a = 115, b = 60$
 [C] $a = 115, b = 30$
 [D] $a = 65, b = 60$
25. What type of quadrilateral is defined as having two pairs of parallel sides?
- [A] parallelogram [B] trapezoid
 [C] rhombus [D] rectangle
26. Classify the figure in as many ways as possible.



- [A] trapezoid, quadrilateral
 [B] quadrilateral, parallelogram
 [C] rectangle, quadrilateral
 [D] quadrilateral, parallelogram, rhombus

27. Which statement is true?

- [A] Every rectangle is a square.
- [B] Every square is a rhombus.
- [C] Every parallelogram is a rhombus.
- [D] Every rhombus is a square.

28. Select the geometric figure that possesses all of the following characteristics:

- i. polygon
- ii. quadrilateral
- iii. exactly two sides are parallel

- | | |
|-------------------|---------------|
| [A] parallelogram | [B] trapezoid |
| [C] square | [D] rhombus |

For 1-2, Solve the proportions for x.

1. $\frac{2}{x} = \frac{15}{90}$

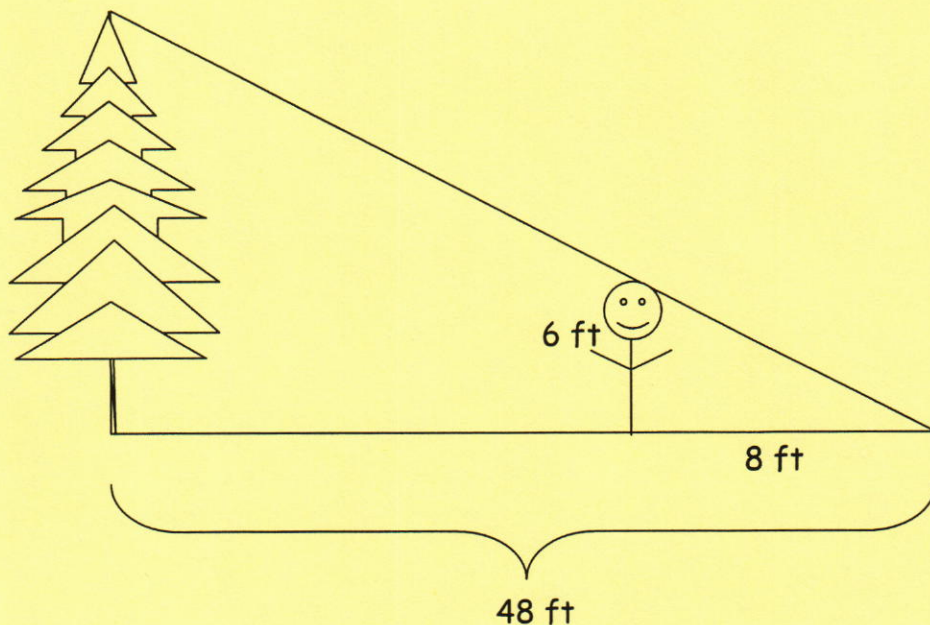
2. $\frac{2x+3}{6} = \frac{9x-5}{12}$

x = _____

x = _____

3. Reduce this ratio : $\frac{3\text{nickels}}{1\text{quarter}} =$

4. Tom Jones wanted to find the height of a tree he could not measure. So he stood in the shadow of the tree to gather some information. Tom is 6 feet tall, and his shadow was 8 feet long. The tree cast a shadow of 48 feet. Using proportions, find the height of the tree.



Tree = _____

Name: _____

Chapter 7 Review

Semester 2 Final Exam

1. Solve the proportion. $\frac{2}{3} = \frac{k+8}{54}$

- [A] 44 [B] 1 [C] 24 [D] 28

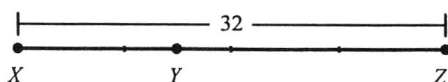
2. Which shows the following ratio simplified?

120 apples to 12 oranges

[A] $\frac{10}{1}$ [B] $\frac{120}{12}$

[C] $\frac{12}{120}$ [D] $\frac{1}{10}$

3. In the diagram, $XY:YZ$ is $3:5$ and $XZ = 32$. Find XY and YZ .



[A] $XY = 24$; $YZ = 40$

[B] $XY = 20$; $YZ = 12$

[C] $XY = 12$; $YZ = 20$

[D] $XY = 3$; $YZ = 5$

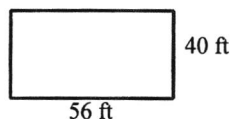
4. Write $\frac{99}{24}$ in simplest form.

5. A photo lab technician has a display ad that is 10 centimeters by 20 centimeters. The ad needs to be enlarged so the longer side is 28 centimeters. How long will the shorter side be after the enlargement?

[A] 18 cm [B] 38 cm

[C] 56 cm [D] 14 cm

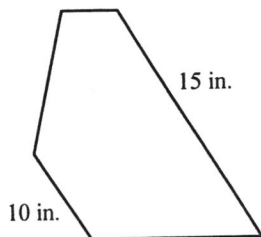
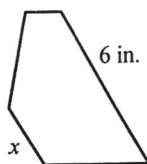
6. Find the ratio of the length to the width of the rectangle. Then simplify the ratio.



[A] $\frac{4}{40}$ [B] $\frac{56}{40}$

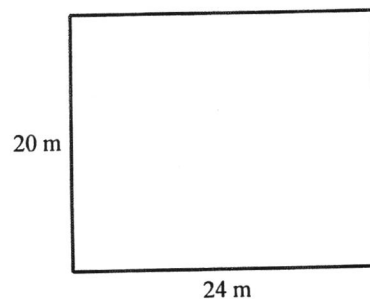
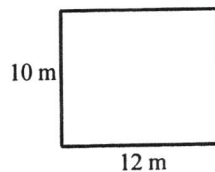
[C] $\frac{2}{5}$ [D] $\frac{7}{5}$

7. For the pair of similar polygons, find the missing side.



- [A] 6 in. [B] 4 in.
[C] 7 in. [D] 3 in.

8. The two rectangles are similar.



Which is a correct proportion between corresponding sides?

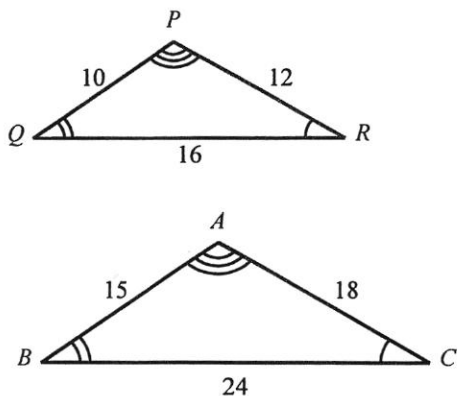
[A] $\frac{12}{24} = \frac{20}{10}$

[B] $\frac{12}{24} = \frac{10}{44}$

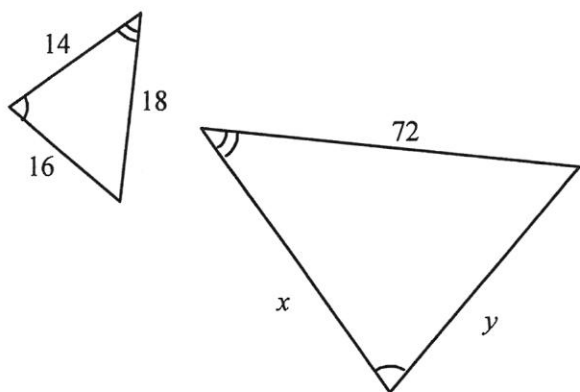
[C] $\frac{12}{10} = \frac{20}{24}$

[D] $\frac{12}{24} = \frac{10}{20}$

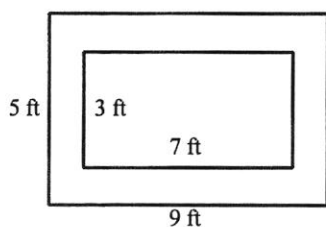
9. Determine if the triangles are similar. If they are similar, write a similarity statement and find the scale factor of $\triangle ABC$ to $\triangle PQR$.



10. Find the value of each variable.



11. Find the ratio of the perimeter of the larger rectangle to the perimeter of the smaller rectangle.



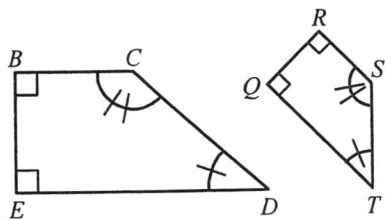
[A] $\frac{9}{7}$

[B] $\frac{7}{5}$

[C] $\frac{5}{3}$

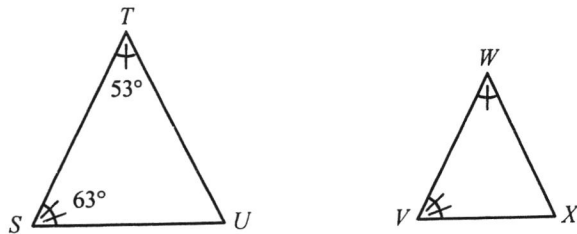
[D] $\frac{5}{7}$

12. Quadrilateral $EBCD \sim$ Quadrilateral $QRST$.
Which is a pair of corresponding sides?



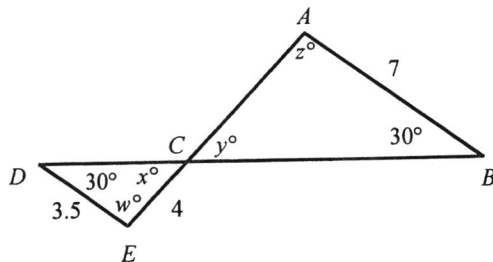
- [A] \overline{CD} and \overline{ST} [B] \overline{ED} and \overline{RS} [C] \overline{BC} and \overline{ST} [D] \overline{EB} and \overline{QT}

13. $\triangle STU \sim \triangle VWX$.
What is the measure of $\angle X$?



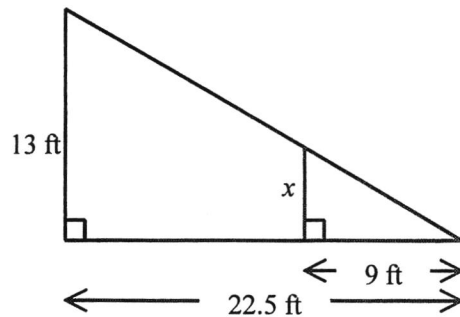
- [A] 64° [B] 244° [C] 32° [D] 116°

14. Which statement is true for the pictured triangles? The diagram is not to scale.

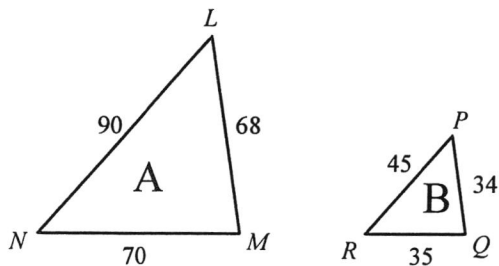


- [A] $x = 30$ [B] $AC = 8.0$ [C] $\frac{CE}{CA} = \frac{CB}{CD}$ [D] $z \neq w$

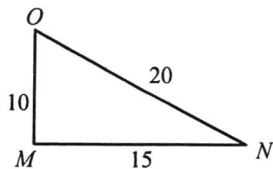
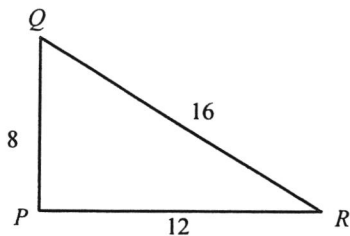
15. Use similar triangles to find x .



16. Determine whether the two triangles are similar. If they are similar, write a similarity statement and find the scale factor of Triangle B to Triangle A.



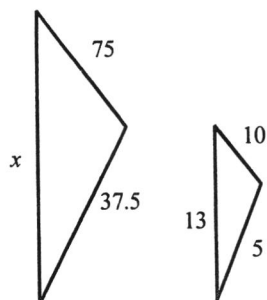
17. Are the two triangles similar? If so, state the postulate or theorem that justifies your answer.



- [A] SSS Similarity Theorem
[C] SAS Similarity Theorem

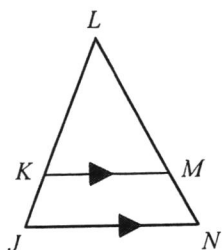
- [B] AA Similarity Postulate
[D] not similar

18. The triangles below are similar. Find the value of x . The diagram is not to scale.



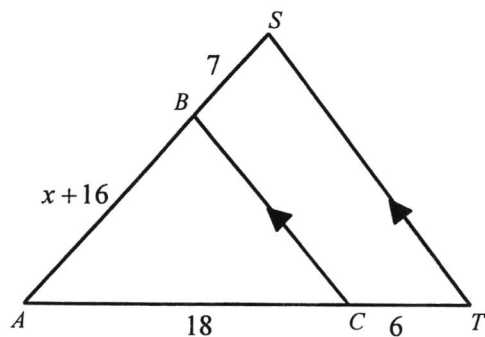
- [A] 97.5 [B] 105
[C] 1.7 [D] 48.8

19. In $\triangle JLN$, if $\overline{KM} \parallel \overline{JN}$, then ____.

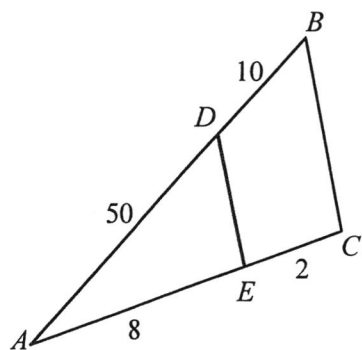


- [A] $\frac{LK}{KJ} = \frac{LM}{MN}$ [B] $\frac{LM}{LK} = \frac{KJ}{MN}$
[C] $\frac{LK}{LM} = \frac{MN}{KJ}$
[D] $\frac{LM}{KJ} = \frac{LK}{MN}$

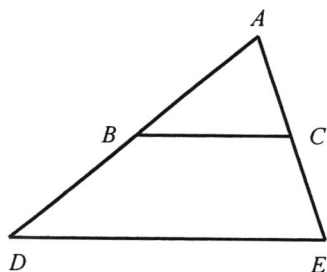
20. Find the value of x . The diagram is not to scale.



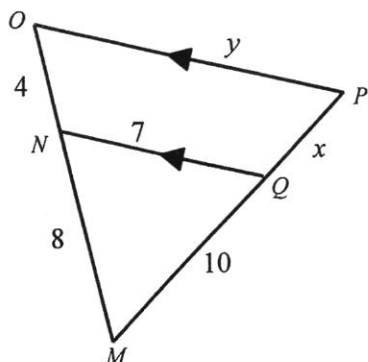
21. Given the diagram, determine whether \overline{BC} is parallel to \overline{DE} . The diagram is not drawn to scale.



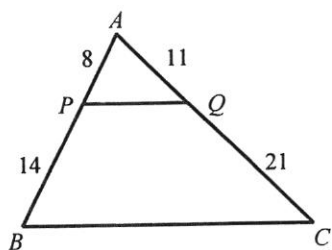
22. In the figure shown, $\overline{BC} \parallel \overline{DE}$, $AB = 4$ yards, $BD = 12$ yards, and $AE = 20$ yards. Find CE . The diagram is not to scale.



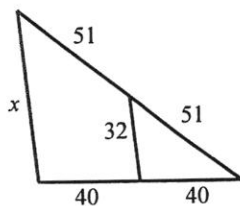
23. Find the value of each variable. The diagram is not to scale.



- [A] $x = 10.5$; $y = 5$
 [B] $x = 7$; $y = 10.5$
 [C] $x = 5$; $y = 10.5$
 [D] $x = 10$; $y = 7$
24. In the figure shown (not drawn to scale),
 is $\overline{PQ} \parallel \overline{BC}$?



25. Find the value of x .

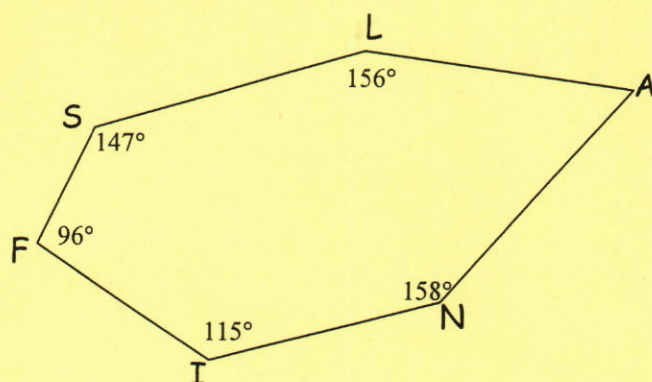


- [A] 45.5 [B] 32
 [C] 64 [D] 40

1. What is the sum of the interior angles of a pentagon? _____

2. What is the sum of the exterior angles of an octagon? _____

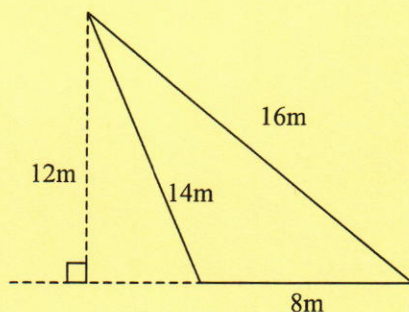
3. Find the missing angle measure, $\angle A$, in the diagram.



$m\angle A =$ _____

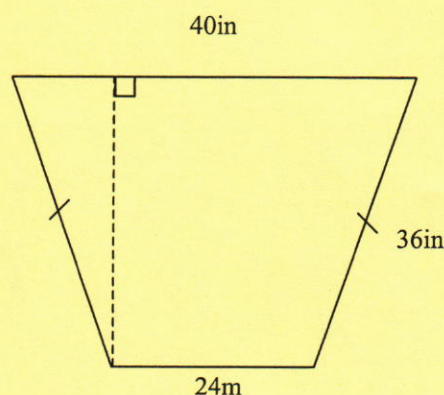
4. Calculate the area of the figures.

a.



Area = _____

b.



(hint: find the height first)

Area = _____

Name: _____

Chapter 8 Review

Semester 2 Final Exam

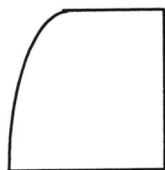
1. Complete the statement.

A polygon is ? if no line that contains a side of the polygon passes through the interior of the polygon.

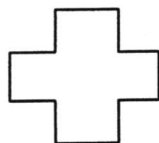
- [A] regular [B] convex
[C] concave [D] irregular

2. Identify the convex polygon.

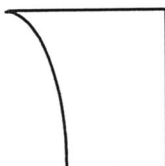
[A]



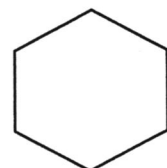
[B]



[C]



[D]



3. Which figure appears to be a regular heptagon?

[A]



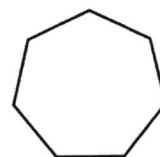
[B]



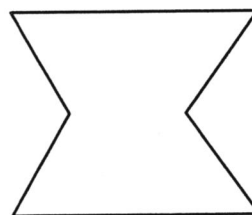
[C]



[D]

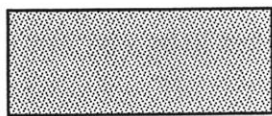


4. Does the polygon appear to be regular or not regular?

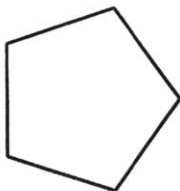


Choose the word or words from the following list to describe the polygon: equilateral, equiangular, convex, concave, regular.

5.



6.



7. The sum of the interior angles of a regular quadrilateral is 360° . What is the measure of each angle?

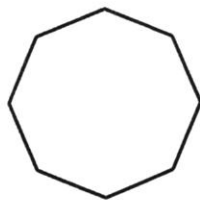
[A] 120° [B] 72°
[C] 90° [D] 180°

8. Find the sum of the measures of the interior angles in the regular polygon.

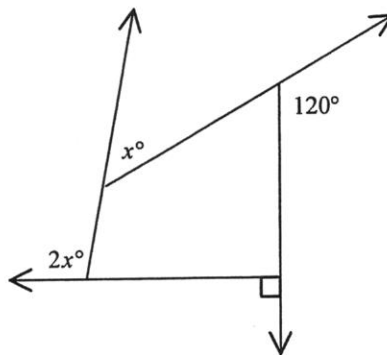


[A] 1620° [B] 810°
[C] 630° [D] 1260°

9. Find the measure of an interior angle in the regular polygon.

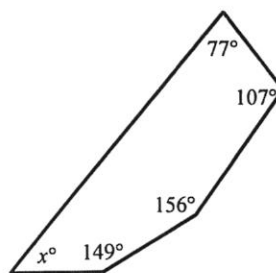


10. Find the value of x .



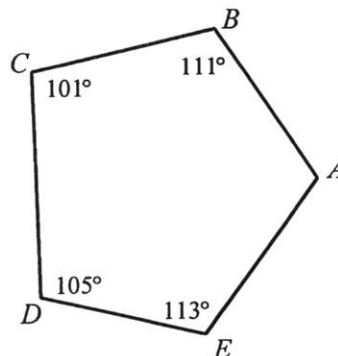
[A] 150 [B] 120
[C] 50 [D] 60

11. Find the value of x .



[A] 51 [B] 39 [C] 90 [D] 45

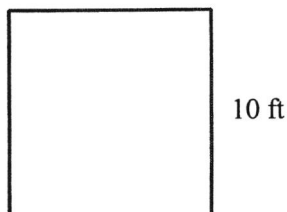
12. Find the measure of $\angle A$ in the diagram.



[A] 290° [B] 70°
[C] 110° [D] 220°

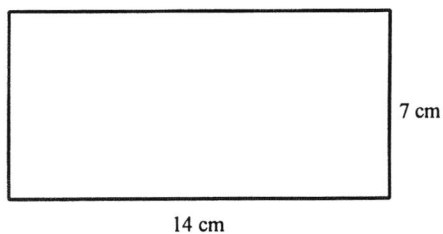
13. The sum of the measures of nine exterior angles of a decagon is 305° . What is the measure of the tenth exterior angle?

14. Find the area of the square.



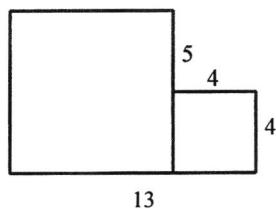
- [A] 90 ft^2 [B] 20 ft^2
[C] 100 ft^2 [D] 5 ft^2

15. What is the area of the rectangle below?



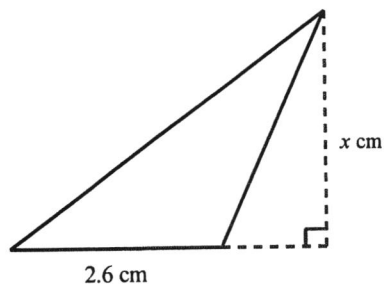
- [A] 98 cm^2 [B] 21 cm^2
[C] 196 cm^2 [D] 42 cm^2

16. Find the area of the polygon made up of rectangles.

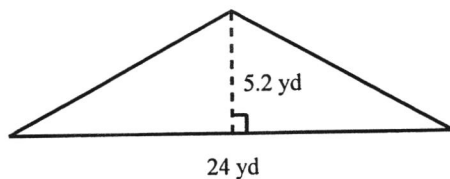


- [A] 185 ft^2 [B] 44 ft^2
[C] 97 ft^2 [D] 13 ft^2

17. Find the value of x if the area is 4.03 square centimeters. The diagram is not to scale.

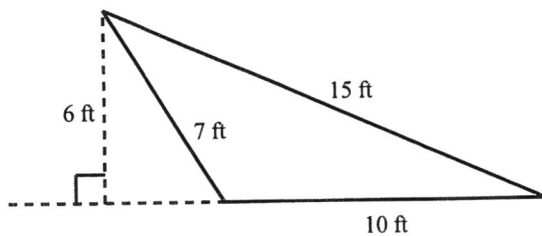


18. Find the area.



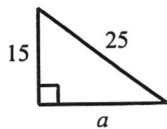
- [A] 29.2 yd^2 [B] 62.4 yd^2 [C] 65 yd^2 [D] 124.8 yd^2

19. Find the area of the triangle. The diagram is not to scale.



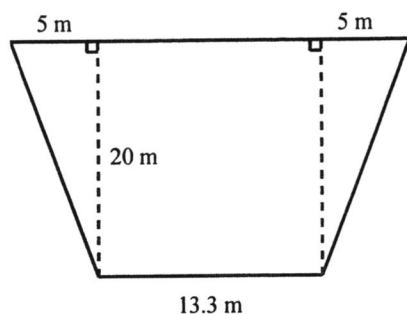
- [A] 60 ft^2 [B] 90 ft^2 [C] 150 ft^2 [D] 30 ft^2

20. Find the area of the triangle.



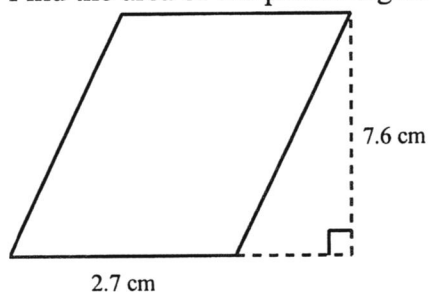
- [A] 313 square units [B] 300 square units
[C] 150 square units [D] 60 square units

21. Calculate the area of the figure. The diagram is not to scale.



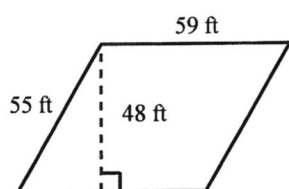
- [A] 466 m^2 [B] 333 m^2 [C] 114.9 m^2 [D] 366 m^2

22. Find the area of the parallelogram. The diagram is not to scale.



- [A] 20.52 cm^2 [B] 21.87 cm^2 [C] 61.56 cm^2 [D] 22.62 cm^2

23. Find the area of the parallelogram. The diagram is not to scale.

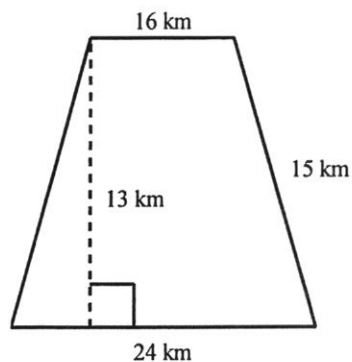


24. A parallelogram has a base of 11 feet and an area of 143 square feet. Find the height.

- [A] 24 ft [B] 6.5 ft [C] 13 ft [D] 26 ft

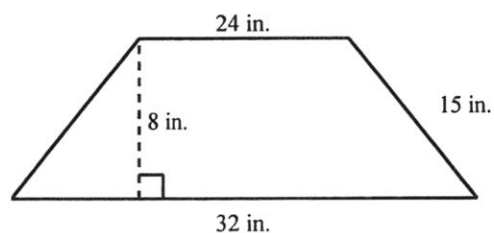
Find the area of the trapezoid. The diagram is not to scale.

25.

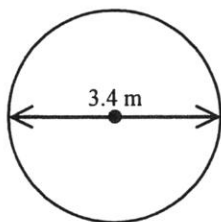


- [A] 520 km^2 [B] 300 km^2 [C] 600 km^2 [D] 260 km^2

26.

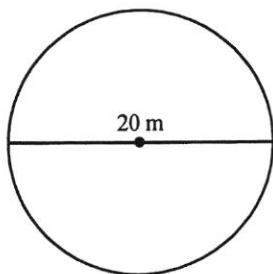


27. Find the area. Use $\pi \approx 3.14$.

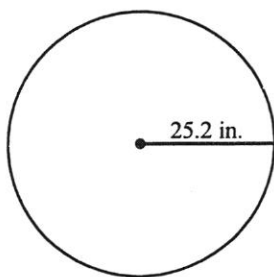


- [A] 145.194 m^2 [B] 36.2984 m^2 [C] 9.0746 m^2 [D] 21.352 m^2
28. A circle has area $225\pi \text{ cm}^2$. What is the diameter?
- [A] $30\pi \text{ cm}$ [B] $50,625\pi \text{ cm}$ [C] 30 cm [D] 15 cm

29. Find the circumference and area of the circle. Use $\pi \approx 3.14$.



30. Find the circumference of the circle.
Use $\pi \approx 3.14$.

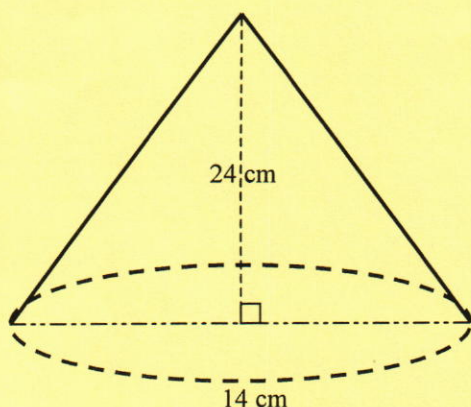


- [A] 79.13 in. [B] 1994.03 in.
[C] 158.26 in. [D] 316.51 in.

1. Find the volume of the hemisphere with diameter of 22 inches.

$V =$ _____

2. Find the following parts of the cone. Use 3.14 for π .



Radius of base = _____

Area of base (B) = _____

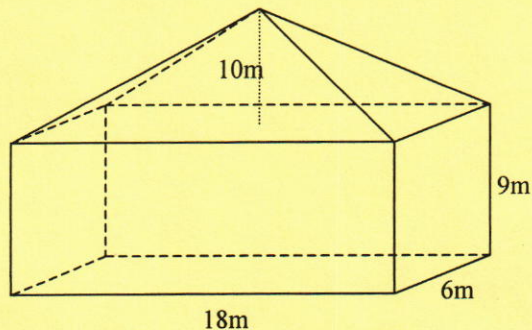
Slant height (ℓ) = _____

Lateral area = _____

Total Surface area = _____

Volume = _____

3. Find the volume of the composite shape.



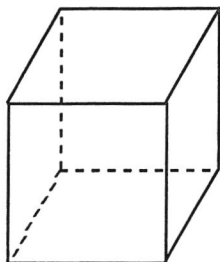
Volume = _____

Name: _____

Chapter 9 Review

Semester 2 Final Exam

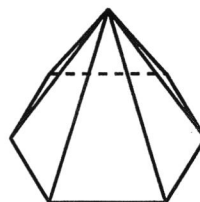
1. Find the number of faces and edges for the figure below.



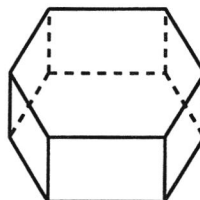
- [A] 6 faces, 6 edges
- [B] 6 faces, 12 edges
- [C] 8 faces, 12 edges
- [D] 7 faces, 13 edges

2. Which of the following has 12 vertices?

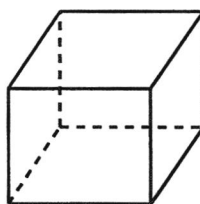
[A]



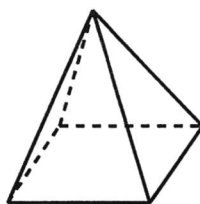
[B]



[C]

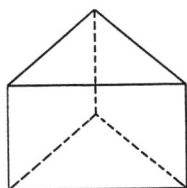


[D]

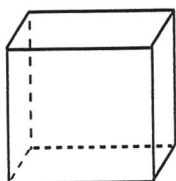


3. Which one of the following figures represents a rectangular prism?

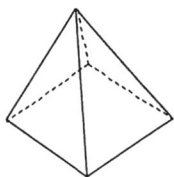
[A]



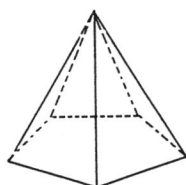
[B]



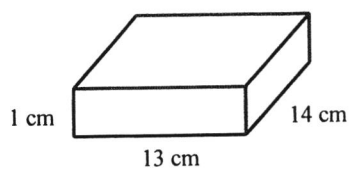
[C]



[D]

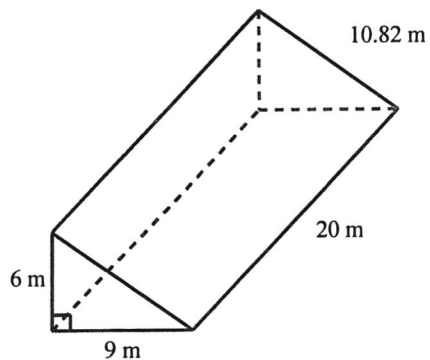


4. Find the surface area. The diagram is not to scale.



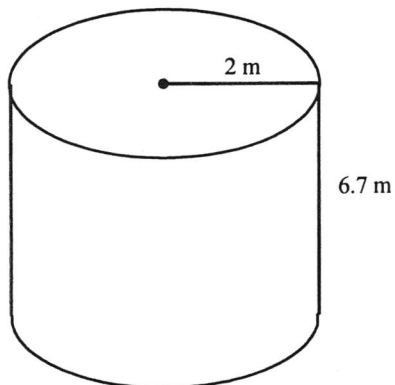
- [A] 224 cm^2 [B] 182 cm^2
[C] 418 cm^2 [D] 378 cm^2

5. Find the surface area of the right triangular prism. Round to the nearest hundredth, if necessary.



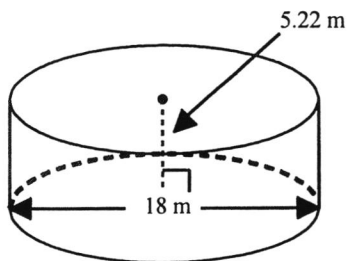
- [A] 570.40 m^2 [B] 1080.00 m^2 [C] 540.00 m^2 [D] 510.40 m^2

6. Find the surface area of the cylinder to the nearest square unit. Use 3.14 for π . The diagram is not to scale.

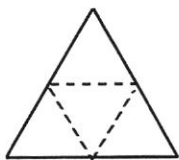


- [A] 55 m^2 [B] 109 m^2 [C] 13 m^2 [D] 17 m^2

7. Find the lateral area and surface area of the cylinder. Use 3.14 for π and round the answers to the nearest hundredth, if necessary.



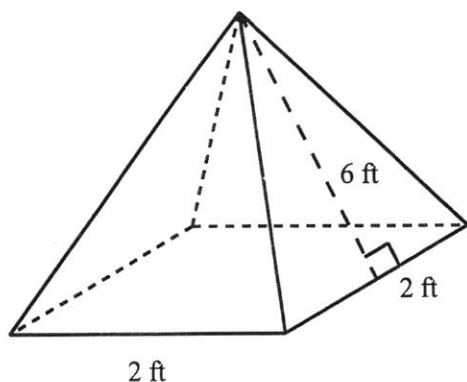
8.



What shape will be made if this net is folded along the dotted lines?

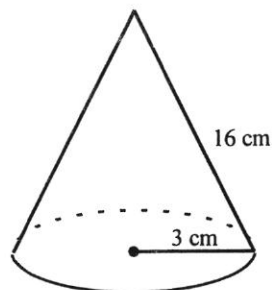
- [A] rectangular prism
- [B] cylinder
- [C] hexagonal prism
- [D] triangular pyramid

9. Find the surface area of the solid. Round to the nearest tenth. The diagram is not to scale.



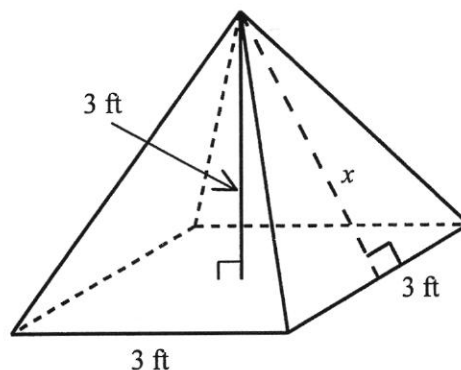
- [A] 48 ft^2
- [B] 24 ft^2
- [C] 28 ft^2
- [D] 52 ft^2

10. Find the exact total surface area, in terms of π , of a cone that has a slant height of 16 centimeters and a radius of 3 centimeters. The diagram is not to scale.



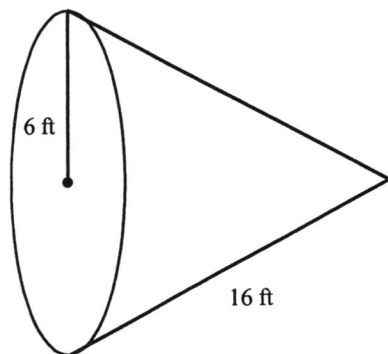
- [A] $57\pi \text{ cm}^2$
- [B] $114\pi \text{ cm}^2$
- [C] $48\pi \text{ cm}^2$
- [D] none of these

11. Find the value of x , the slant height of the regular pyramid. Round your answer to the nearest hundredth, if necessary.



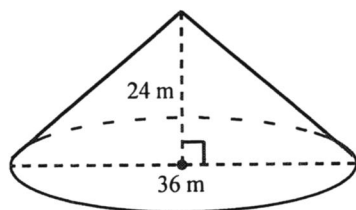
- [A] 4.5 ft
- [B] 3.35 ft
- [C] 2.12 ft
- [D] 4.24 ft

12. Find the lateral area and the surface area of the cone. Use 3.14 for π and round the answer to the nearest hundredth. The diagram is not to scale.

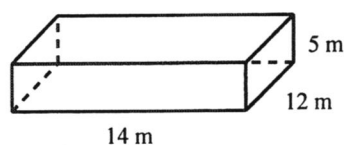


- [A] lateral area = 1808.64 ft^2 ; surface area = 414.48 ft^2
[B] lateral area = 301.44 ft^2 ; surface area = 414.48 ft^2
[C] lateral area = 192.00 ft^2 ; surface area = 301.44 ft^2
[D] none of these

13. Find the slant height of the right cone.

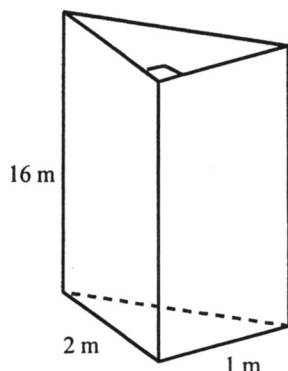


- [A] 43 m [B] 30 m [C] 22 m [D] 900 m
14. Find the volume of the rectangular prism. The diagram is not to scale.

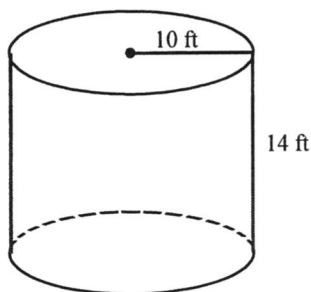


- [A] 840 m^3 [B] 420 m^3 [C] 596 m^3 [D] 31 m^3

15. Find the volume of the solid. Round the answer to the nearest hundredth, if necessary. The diagram is not to scale.

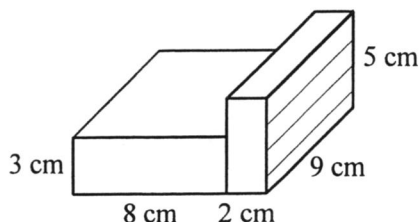


16. Find the volume of the cylinder. Use 3.14 for π and round your answer to the nearest cubic foot. The diagram is not to scale.



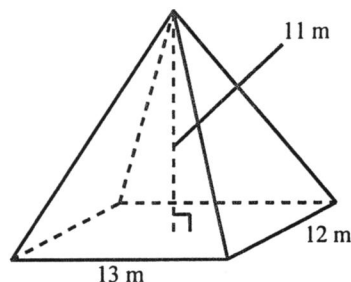
- [A] 1400 ft³ [B] 4396 ft³
[C] 440 ft³ [D] 6154 ft³

17. Find the volume of the combined prisms.



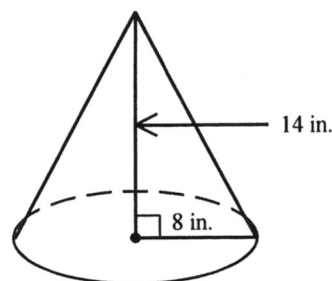
- [A] 90 cm³ [B] 306 cm³
[C] 279 cm³ [D] 216 cm³

18. Find the volume of the pyramid. The diagram is not to scale.



- [A] $63\frac{5}{9}$ m³ [B] 12 m³
[C] 1716 m³ [D] 572 m³

19. Find the volume of the solid. Round to the nearest tenth and use 3.14 for π . The diagram is not to scale.



- [A] 117.2 in.³ [B] 925.6 in.³
[C] 937.8 in.³ [D] 4923.5 in.³

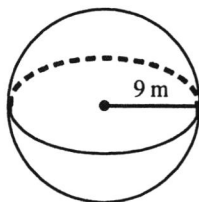
20. Find the volume of a cone that has a diameter of 14 feet and a height of 27 feet to the nearest square meter. Use 3.14 for π .

- [A] 4154 ft³ [B] 5539 ft³
[C] 1385 ft³ [D] 1187 ft³

21. A rectangular pyramid has a volume of 93.6 cubic meters, a width of 7.8 meters and a length of 3 meters. What is the height of the pyramid?

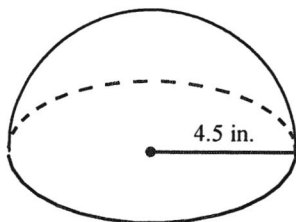
[A] 4 m [B] 36 m
[C] 24 m [D] 12 m

22. Find the surface area of a sphere if the radius, r , is 9 meters. Give your answer in terms of π .



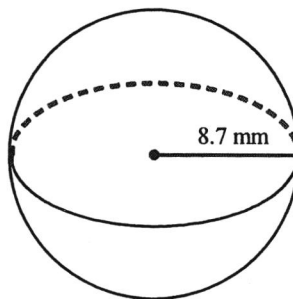
[A] $648\pi \text{ m}^2$ [B] $324\pi \text{ m}^2$
[C] $1296\pi \text{ m}^2$ [D] $72\pi \text{ m}^2$

23. Find the volume of the hemisphere. Use 3.14 for π and round your answer to the nearest tenth.



[A] 143.1 in.^3 [B] 107.3 in.^3
[C] 190.8 in.^3 [D] 42.4 in.^3

24. Find the volume of the sphere. Use 3.14 for π . Round your answer to the nearest cubic millimeter.



1. Express each function as a fraction in simplest form.

$$\sin F =$$

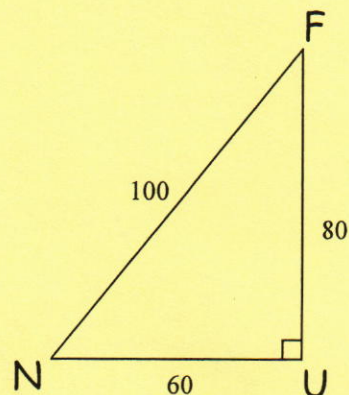
$$\sin N =$$

$$\cos F =$$

$$\cos N =$$

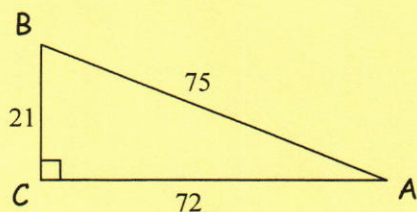
$$\tan F =$$

$$\tan N =$$



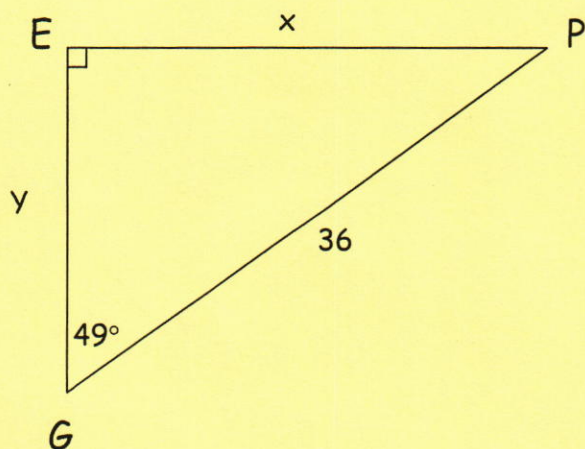
2. Calculate $\cos 25^\circ$ to four decimal places. _____

3. Find the measure of angle A.



$$m\angle A = \underline{\hspace{2cm}}$$

4. Solve the triangle. Round to the nearest tenth.



$$m\angle P = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

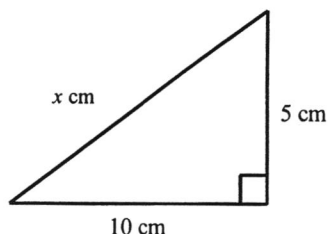
$$y = \underline{\hspace{2cm}}$$

Name: _____

Chapter 10 Review

Semester 2 Final Exam

1. Use a calculator to find the square root of 133. Round your answer to the nearest tenth.
Check that your answer is reasonable.
2. Use the Pythagorean Theorem to find the length of the hypotenuse to the nearest hundredth.
The diagram is not to scale.



- [A] 25 cm [B] 11.18 cm [C] 5.48 cm [D] 7.50 cm

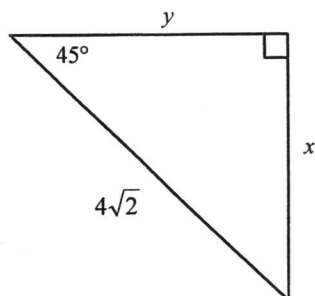
Multiply the radicals. Then simplify if possible.

3. a. $\sqrt{17} \cdot \sqrt{13}$ [A] a. $\sqrt{221}$ [B] a. $\sqrt{30}$ [C] a. $\sqrt{221}$ [D] none of these
b. $\sqrt{4} \cdot \sqrt{9}$ b. 6 b. $\sqrt{13}$ b. 36

4. $\sqrt{11} \cdot \sqrt{55}$ [A] 11 [B] $121\sqrt{5}$ [C] 605 [D] $11\sqrt{5}$

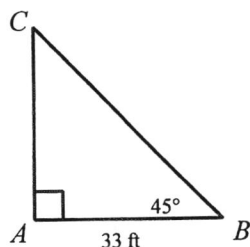
5. $9\sqrt{6} \cdot \sqrt{6}$ [A] 54 [B] 15 [C] 324 [D] 21

6. Find the missing measures. Write all radicals in simplest form.



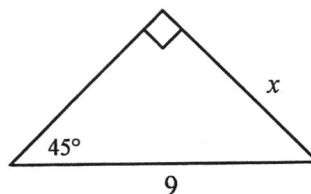
- [A] $x = 4\sqrt{3}$, $y = 8$
 [B] $x = 4$, $y = 4$
 [C] $x = 4\sqrt{2}$, $y = 4\sqrt{2}$
 [D] $x = 4\sqrt{2}$, $y = 4\sqrt{3}$

7. Using your knowledge of special right triangles, find the length of the hypotenuse. Round to the nearest hundredth when necessary.



- [A] 23.33 ft [B] 15.56 ft
 [C] 46.67 ft [D] 33 ft

8. Find the value of x to the nearest tenth.

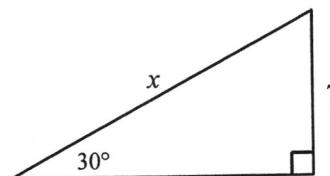


- [A] 12.7 [B] 6.4
 [C] 6 [D] 7.8

9. *True or false?* In every $45^\circ-45^\circ-90^\circ$ triangle, the length of the hypotenuse is the length of a leg times $\sqrt{2}$.

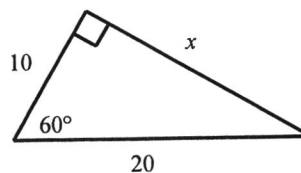
Find the value of x .

10.



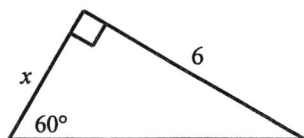
- [A] 14 [B] 16
 [C] $7\sqrt{3}$ [D] $7\sqrt{2}$

11.



- [A] $10\sqrt{3}$ [B] $5\sqrt{3}$
 [C] $20\sqrt{3}$ [D] 10

12. Find the value of x . Round the answer to the nearest tenth, if necessary.



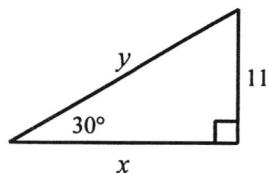
[A] 2.4

[B] 3

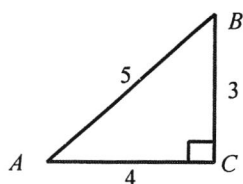
[C] 12

[D] 3.5

13. Find the values of x and y .

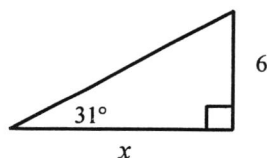


14. Express $\tan A$ as a fraction in simplest form.



15. Use a calculator to approximate $\tan 38^\circ$ to the nearest hundredth.

16. Use a tangent ratio to find the value of x . Round your answer to the nearest tenth. The diagram is not to scale.



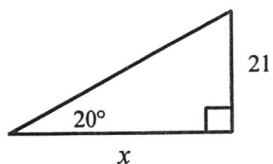
[A] 11.6

[B] 10.0

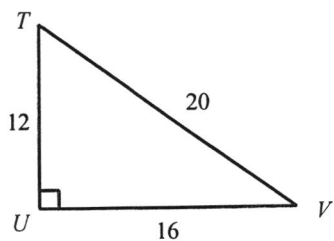
[C] 3.6

[D] 7.0

17. Find the value of x . Round to the nearest tenth. The diagram is not to scale.

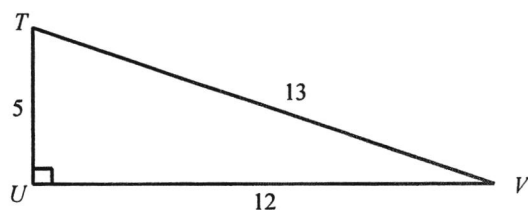


- [A] 22.3 [B] 57.7
[C] 61.4 [D] 7.6
18. Find the sine, cosine, and tangent of $\angle T$.
The diagram is not to scale.

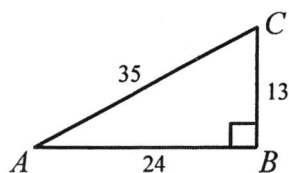


- [A] $\sin T = \frac{4}{5}$; $\cos T = \frac{3}{5}$; $\tan T = \frac{4}{3}$
[B] $\sin T = \frac{5}{4}$; $\cos T = \frac{4}{3}$; $\tan T = \frac{5}{3}$
[C] $\sin T = \frac{4}{5}$; $\cos T = \frac{3}{4}$; $\tan T = \frac{3}{5}$
[D] $\sin T = \frac{3}{4}$; $\cos T = \frac{3}{5}$; $\tan T = \frac{4}{5}$

19. Find the sine, cosine, and tangent of $\angle T$. Write your answers as fractions. The diagram is not to scale.



20. Find $\sin A$ and $\cos A$ as fractions and as decimals rounded to four decimal places. The diagram is not to scale.



[A] $\sin A = \frac{13}{35} \approx 0.3714$

$\cos A = \frac{13}{24} \approx 0.5417$

[B] $\sin A = \frac{13}{35} \approx 0.3714$

$\cos A = \frac{24}{35} \approx 0.6857$

[C] $\sin A = \frac{24}{35} \approx 0.6857$

$\cos A = \frac{13}{35} \approx 0.3714$

[D] $\sin A = \frac{13}{24} \approx 0.5417$

$\cos A = \frac{13}{35} \approx 0.3714$

21. Use a calculator to approximate $\cos 59^\circ$ to four decimal places.

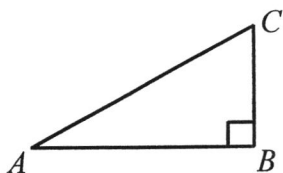
[A] 0.5150

[B] 59

[C] 1.6643

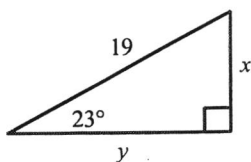
[D] 0.8572

22. Use the diagram to find the ratio for $\cos A$.



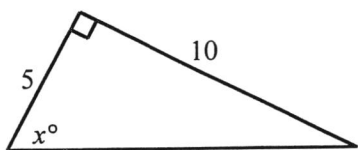
- [A] $\frac{CB}{AB}$ [B] $\frac{AB}{CB}$
 [C] $\frac{AB}{AC}$ [D] $\frac{BC}{AC}$

23. Find the lengths of the legs of the triangle. Round answers to the nearest tenth. The diagram is not to scale.



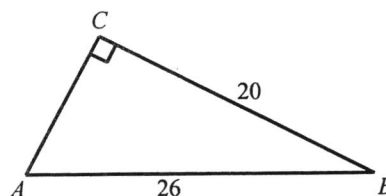
- [A] $x \approx 0.9; y \approx 0.4$
 [B] $x \approx 0.4; y \approx 0.9$
 [C] $x \approx 7.4; y \approx 17.5$
 [D] $x \approx 17.5; y \approx 7.4$

24. Find the measure of the marked acute angle to the nearest degree. The diagram is not to scale.



- [A] 63 [B] 24 [C] 42 [D] 27

25. For $\triangle ABC$, find the measure of $\angle B$ to the nearest degree. The diagram is not to scale.



26. Use a calculator to find the measure of the angle to the nearest degree.
 $\cos B = 0.7880$

- [A] 52° [B] 22°
 [C] 38° [D] 7°

27. Find each measure to the nearest tenth. The diagram is not to scale.

